

Figure 1

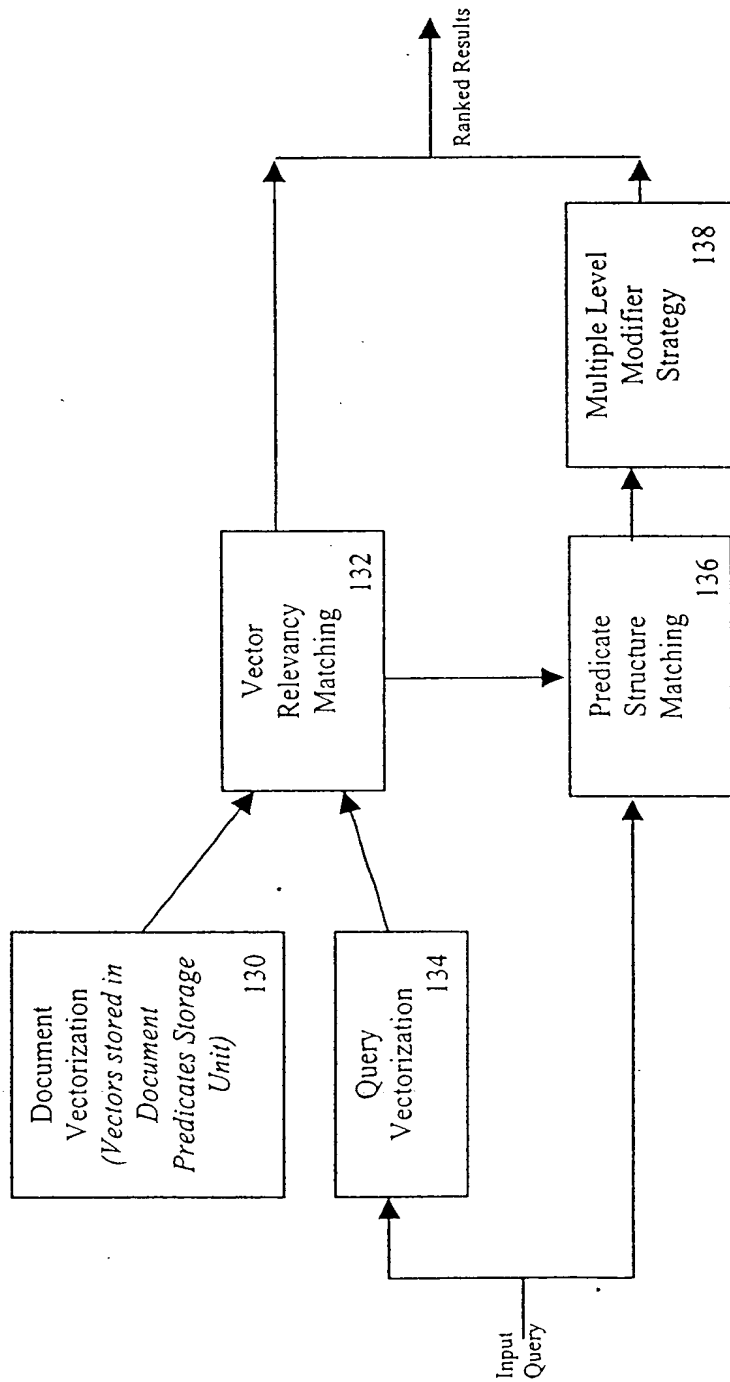


Figure 2

Table 1 Examples of Modifier Names and Weights

| Modifier Name | Explanation of Modifier | Weight |
|---|--|--|
| <i>VerbOnlyMatchModifier</i> | Parameter for two matching predicates in two predicate structures. | 4 |
| <i>NounModifier</i> | Parameter for matching noun arguments in two predicate structures | 6 |
| <i>VerbNounMatchModifier</i> | Parameter for matching complete predicate structures. | 8 |
| <i>PredicateStructureExactMatchModifier</i> | Parameter for two exactly matched predicate structures | 40 |
| <i>PredicateExactMatchModifier</i> | Parameter for two exactly matched predicates | 25 |
| <i>ConceptExactMatchModifier</i> | Parameter for two exactly matched concepts | 15 |
| <i>ConceptProximityModifier</i> | Parameter considering the ontological relationship between two concepts | $ConceptExactMatchModifier \times (1 - \frac{highest_order_difference_digit}{identifier_digit_number})$ |
| <i>SameStemModifier</i> | Parameter for two words from same stem | 20 |
| <i>ArgumentMatchModifier</i> | Parameter for two arguments that exactly match | 10 |
| <i>ProperNounExactMatchModifier</i> | Parameter for two exactly matched proper nouns | 15 |
| <i>SymbolMatchModifier</i> | Parameter for two matched symbols | 10 |
| <i>FrontLineModifier</i> | Parameter for a predicate in which the corresponding sentence occurs in the first 10 sentences of the document | 5 |
| <i>DocSizeModifier</i> | Parameter to adjust for overall document size | 0.035 |

Figure 3

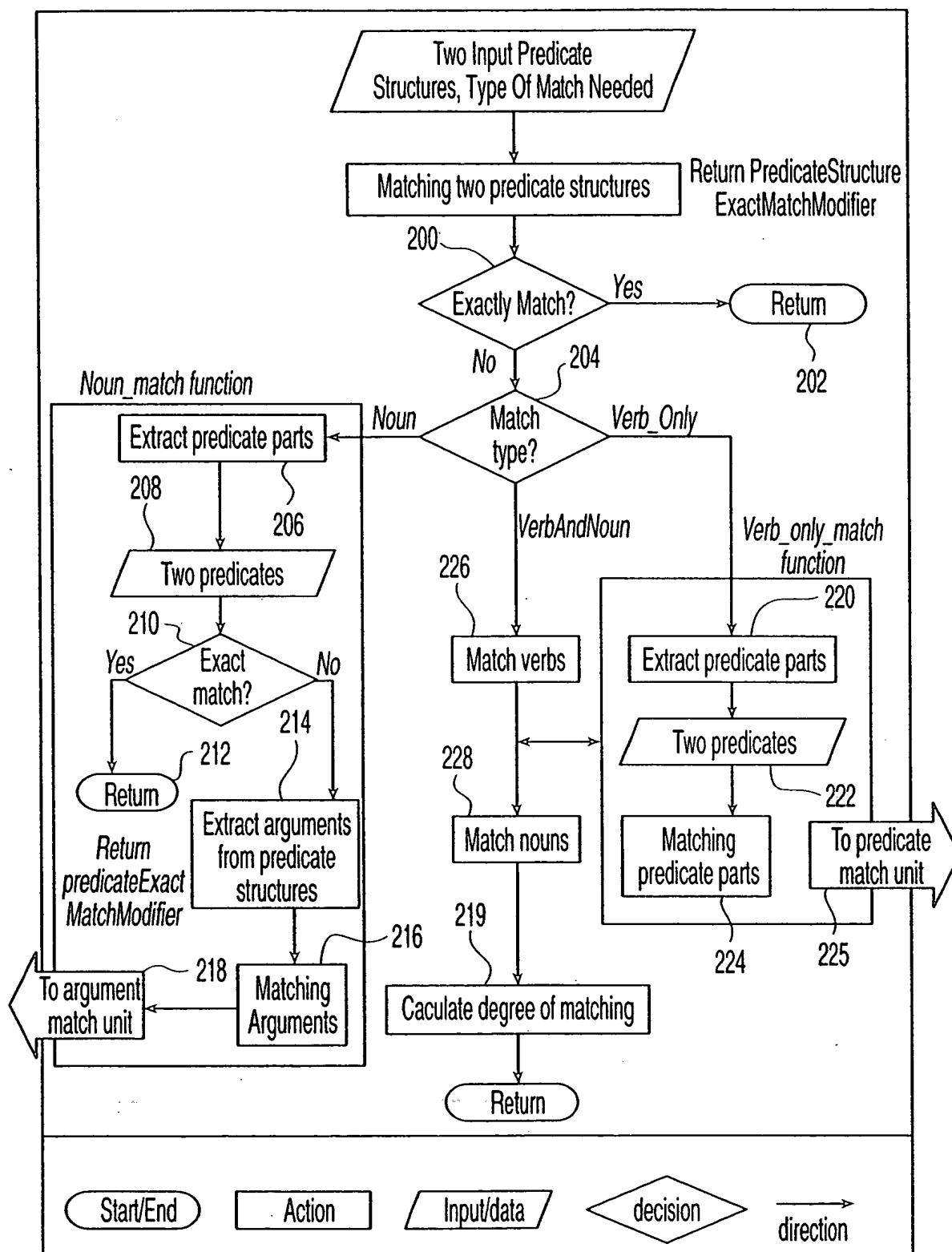


Figure 4

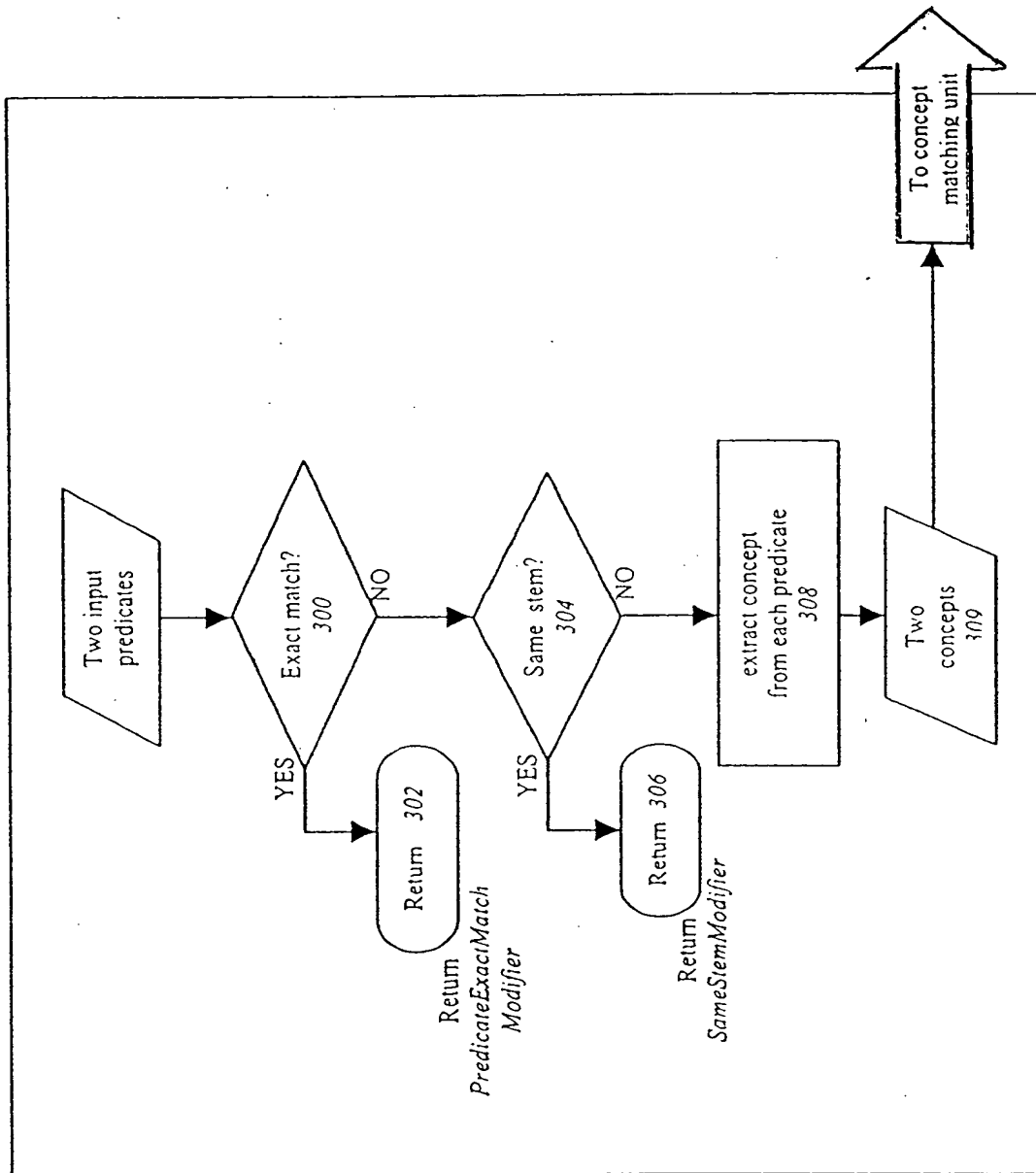


Figure 5

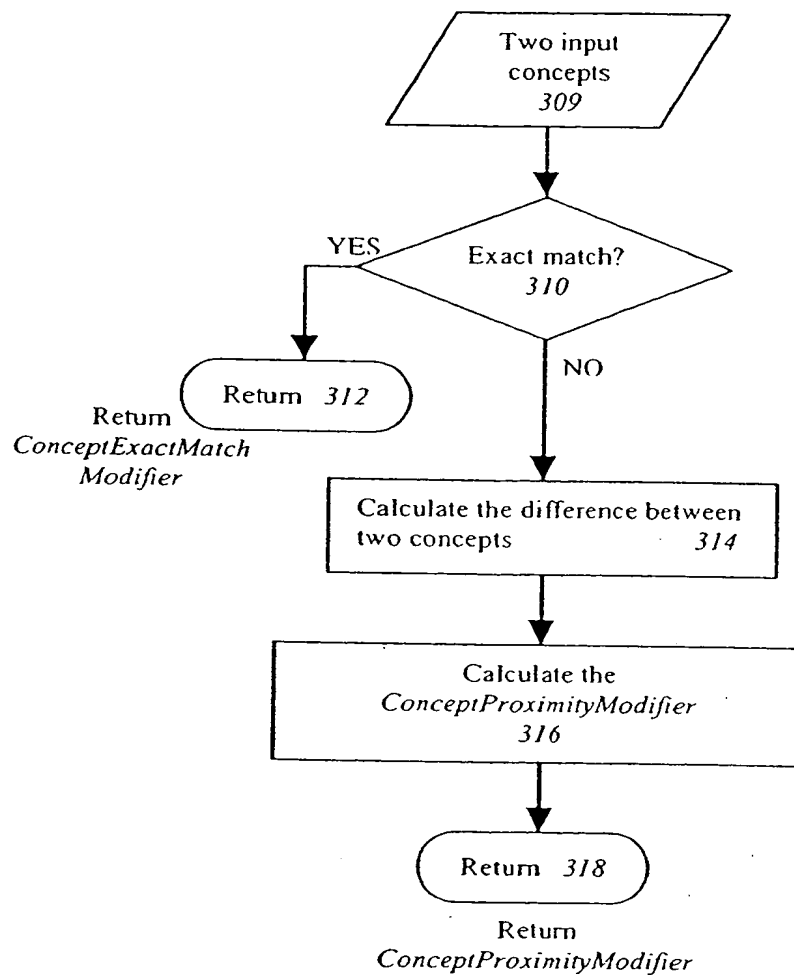


Figure 6

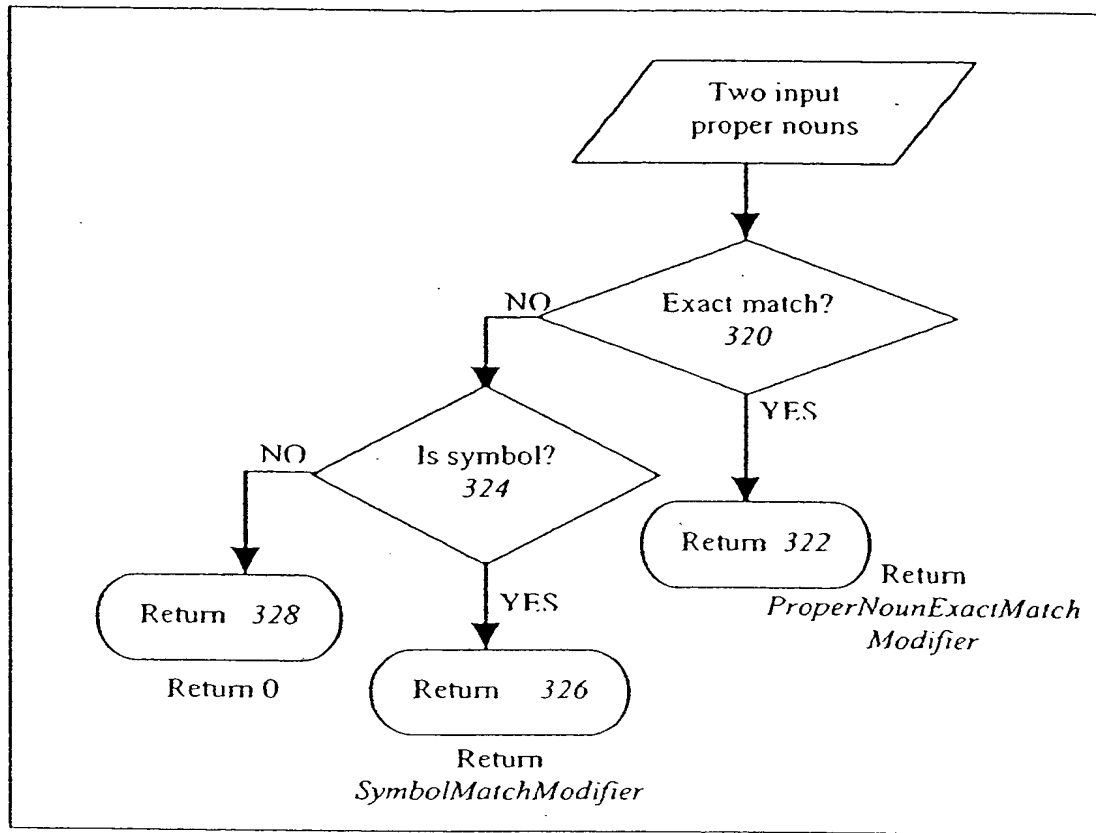


Figure 7

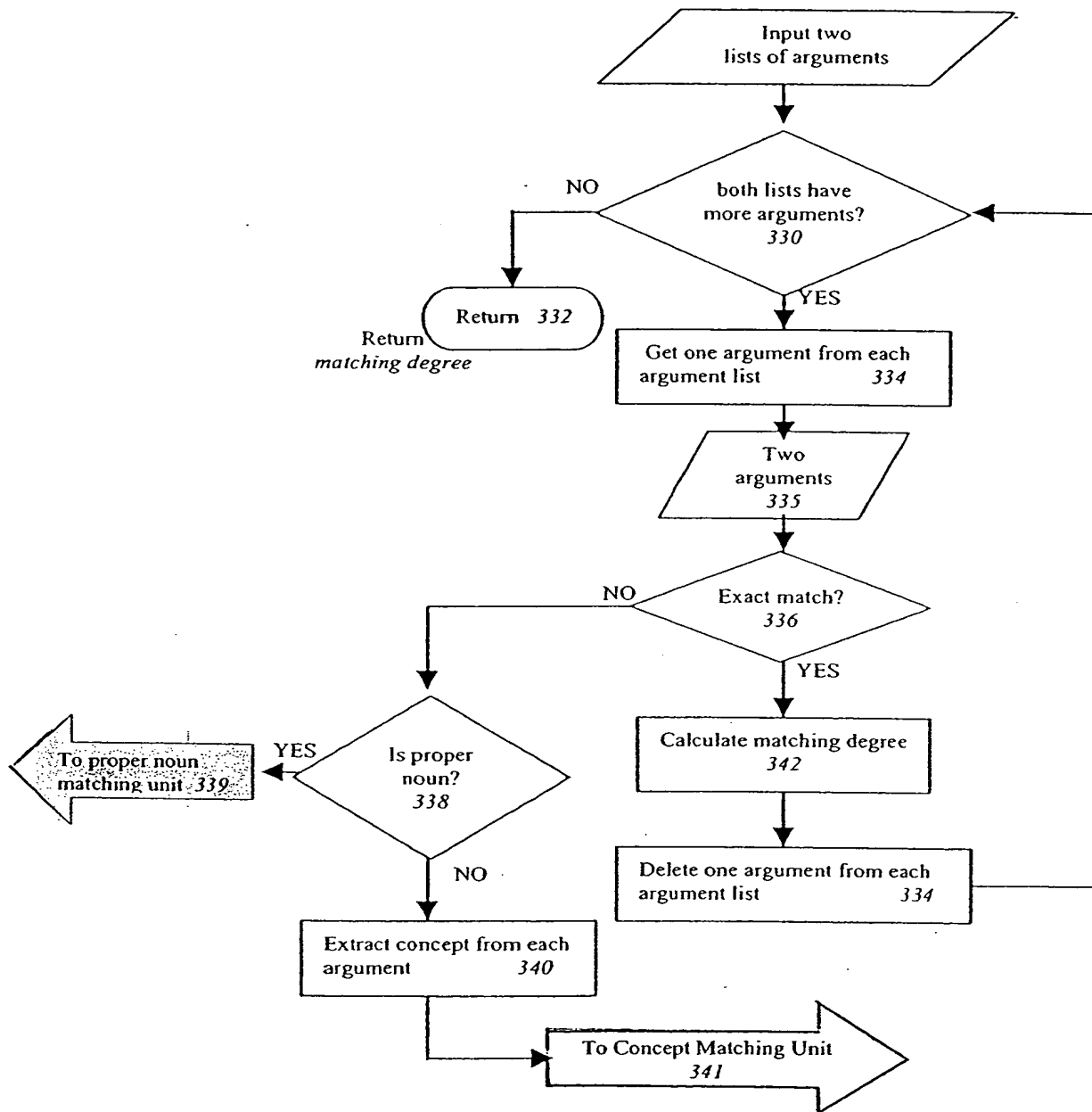


Figure 8

Input signal connections, each input connection carries one element of the input vector.
For n -dimensional inputs there are exactly n input connections to the neurode.

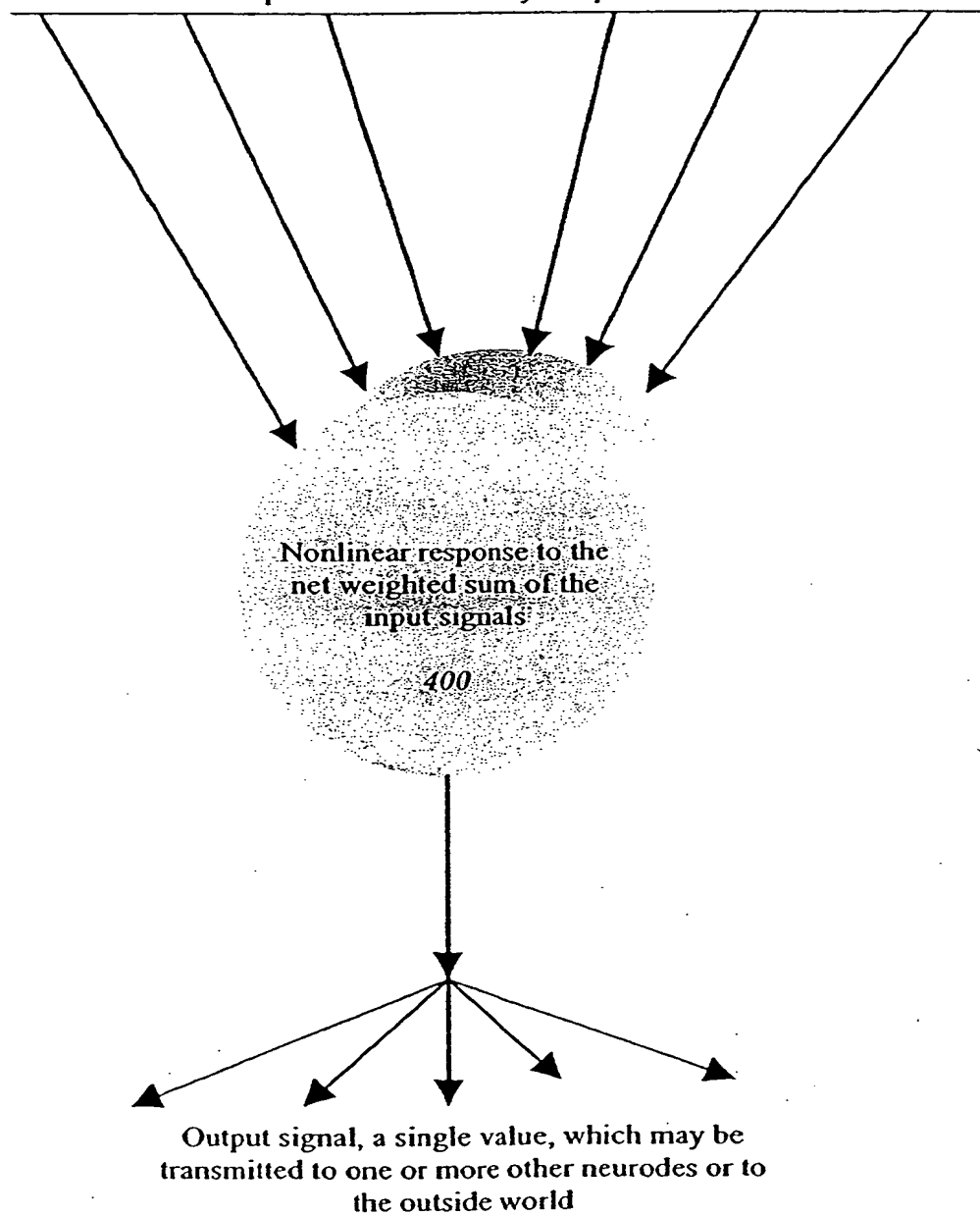


Figure 9

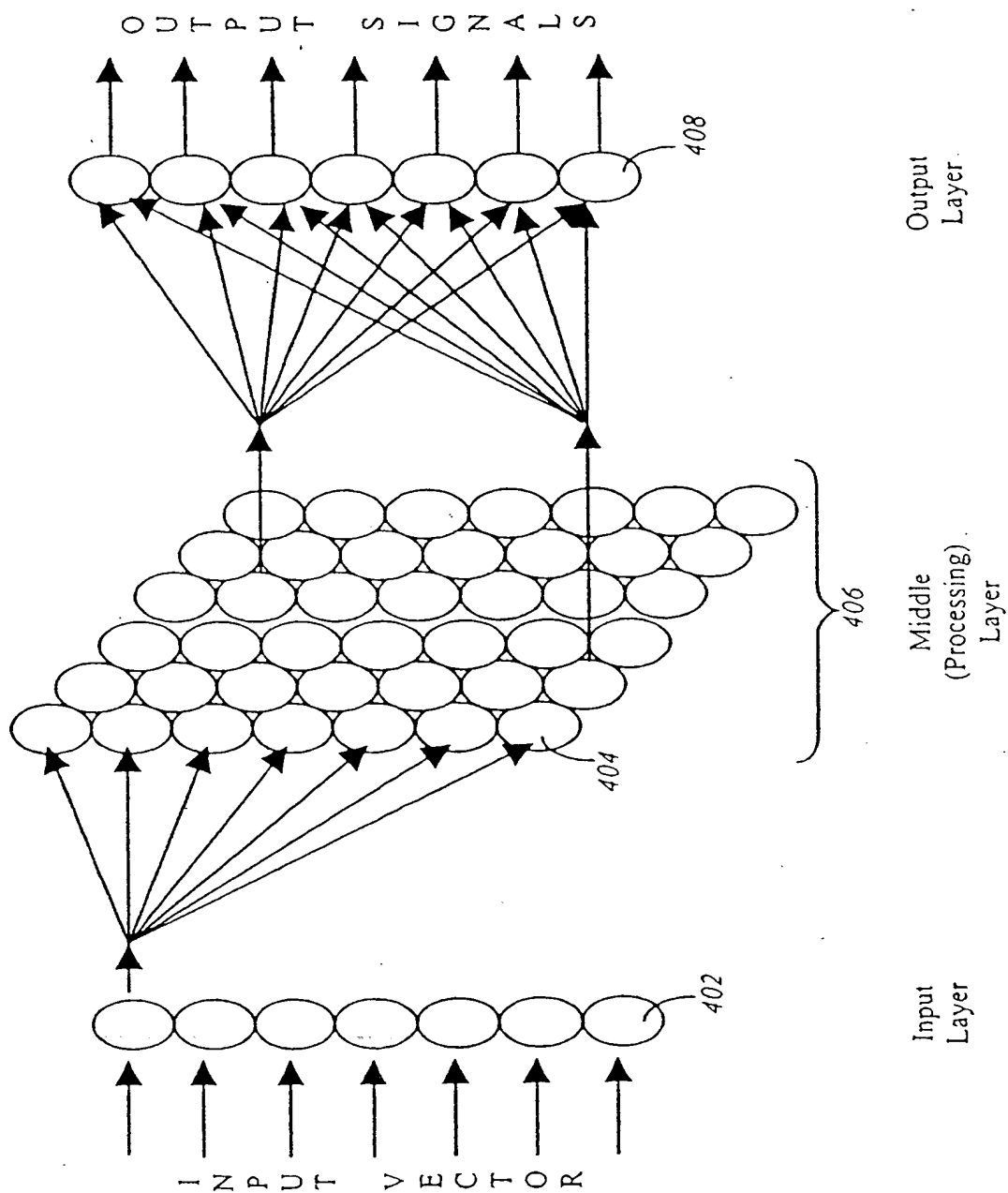


Figure 10

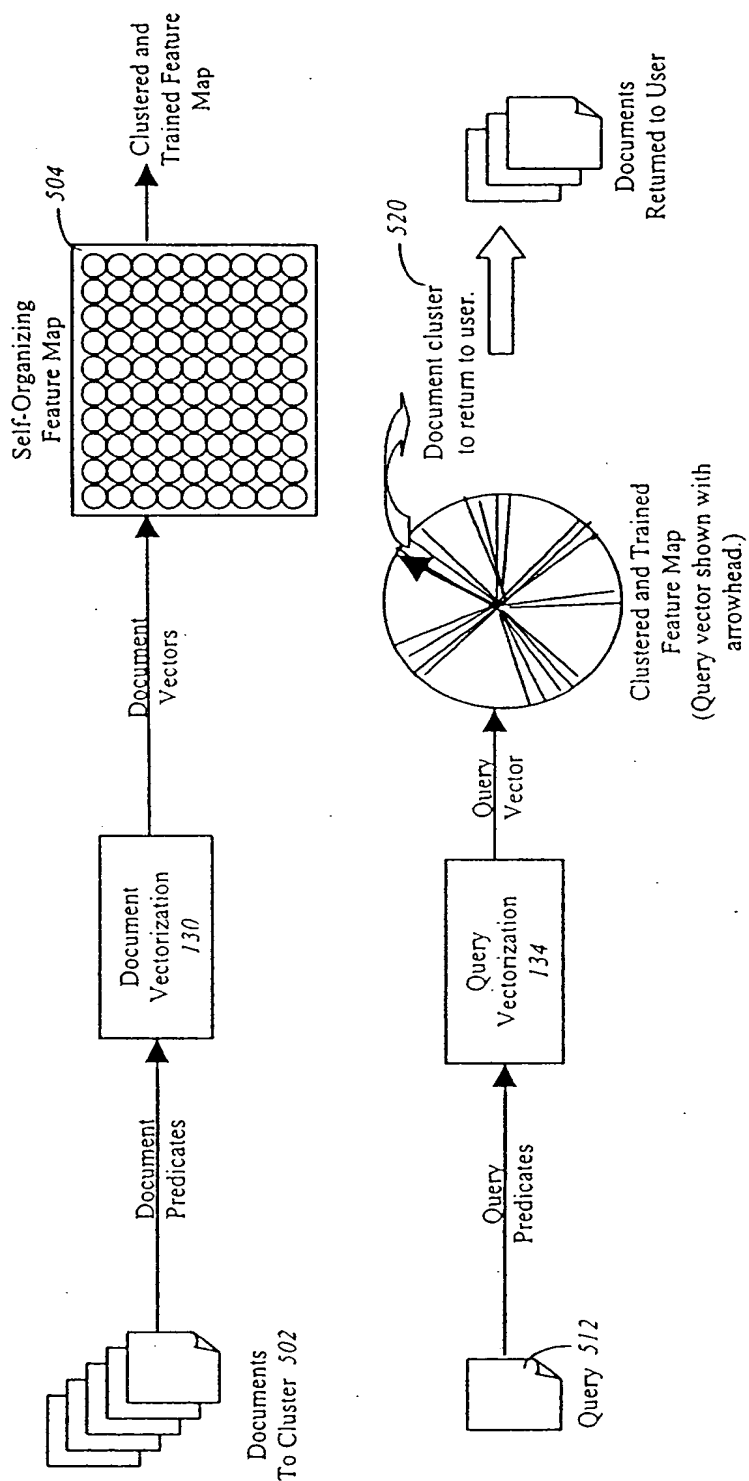
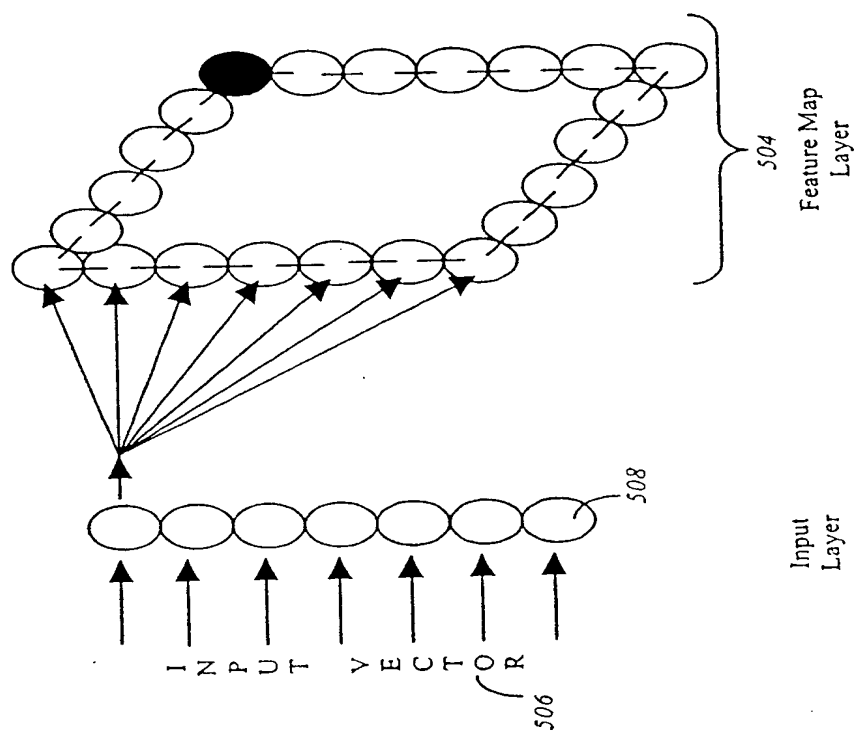


Figure 11



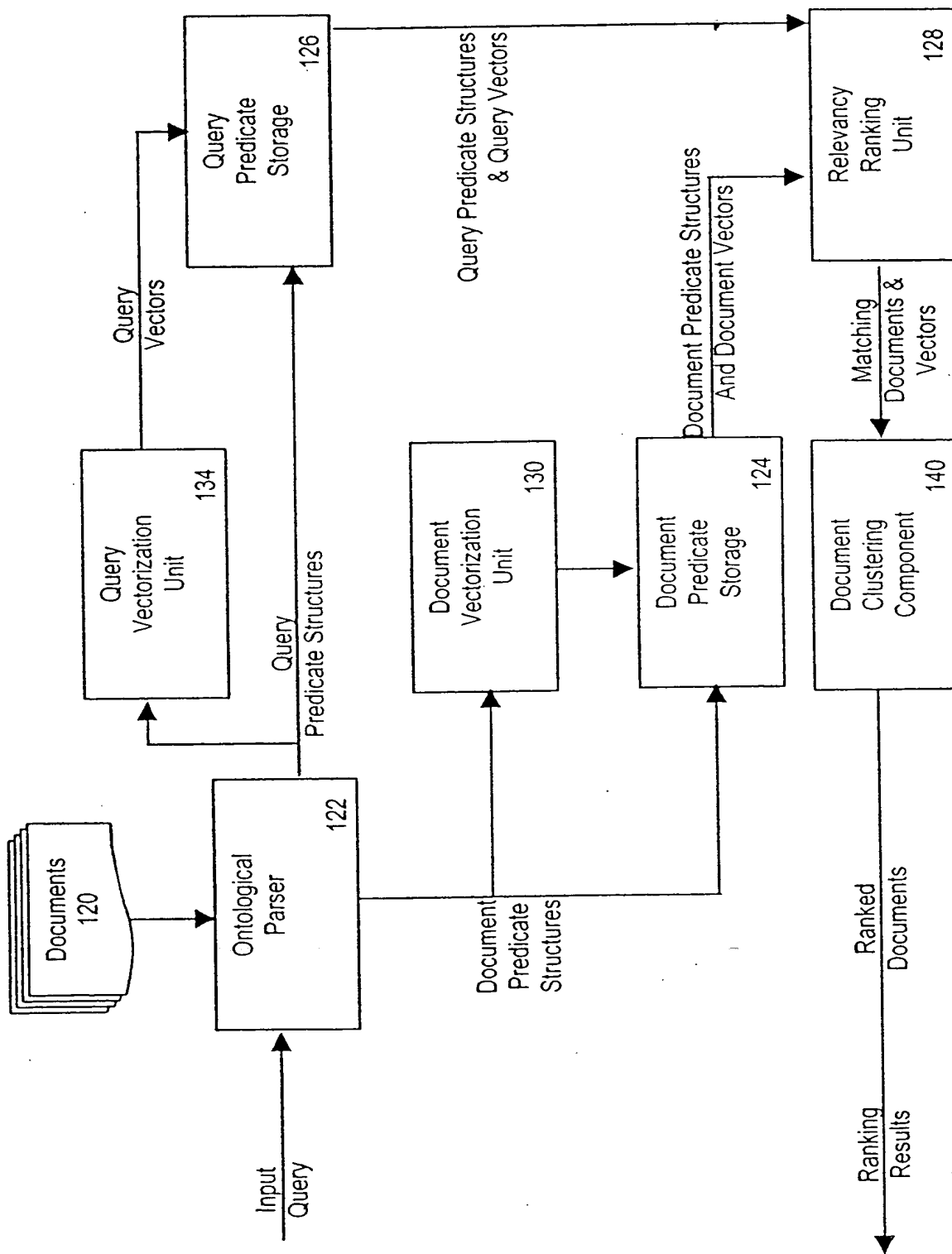


Figure 13

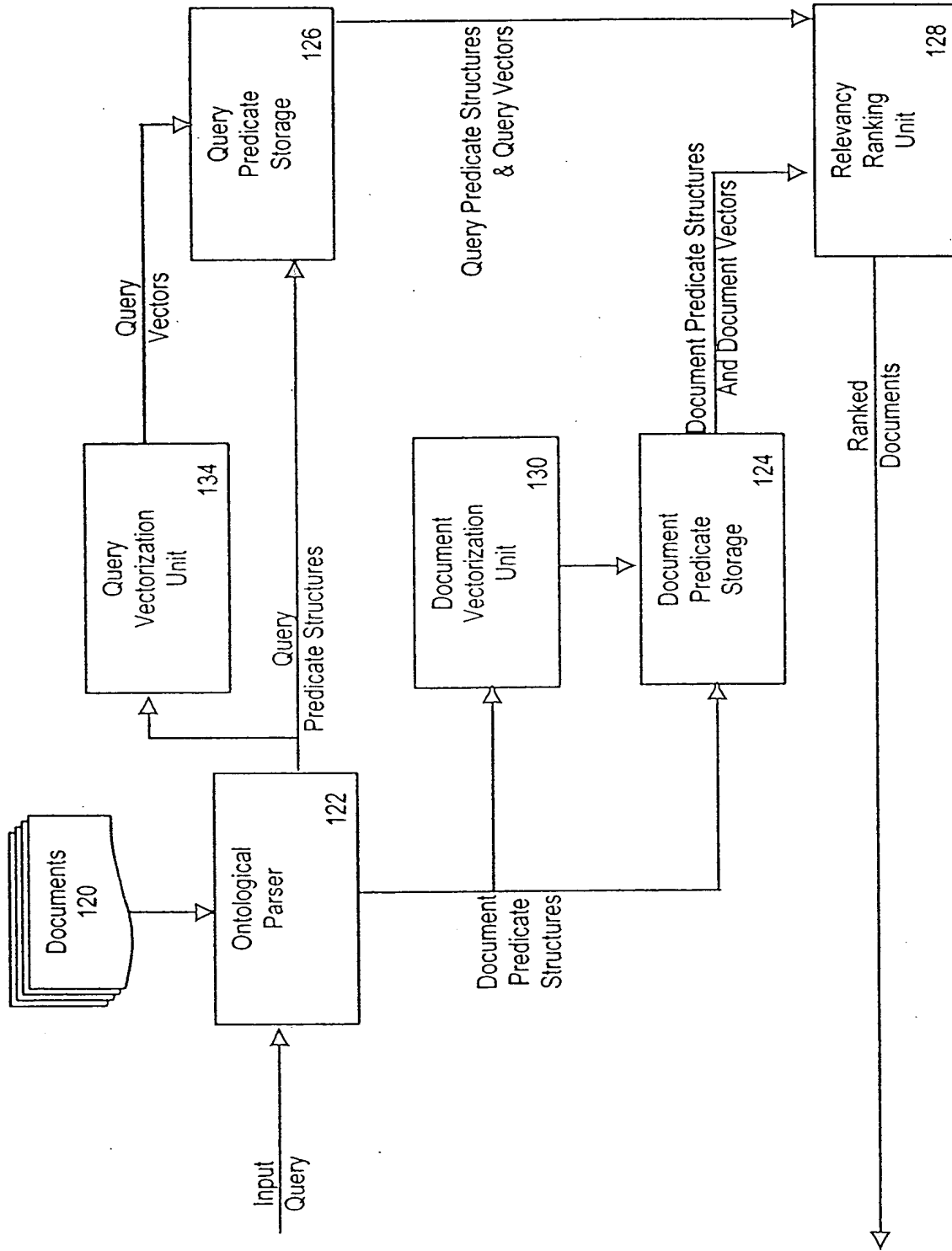


Figure 14

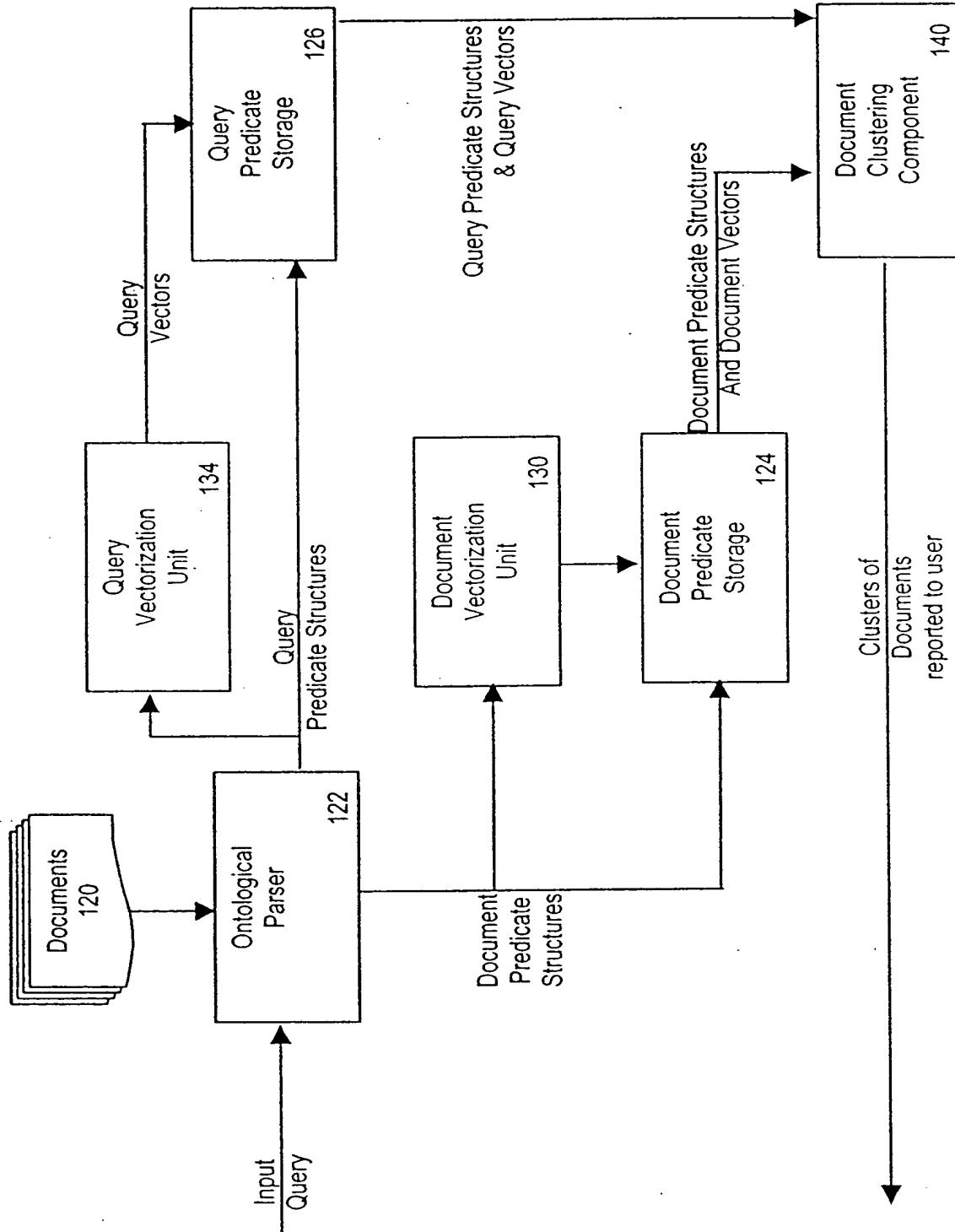


Figure 15

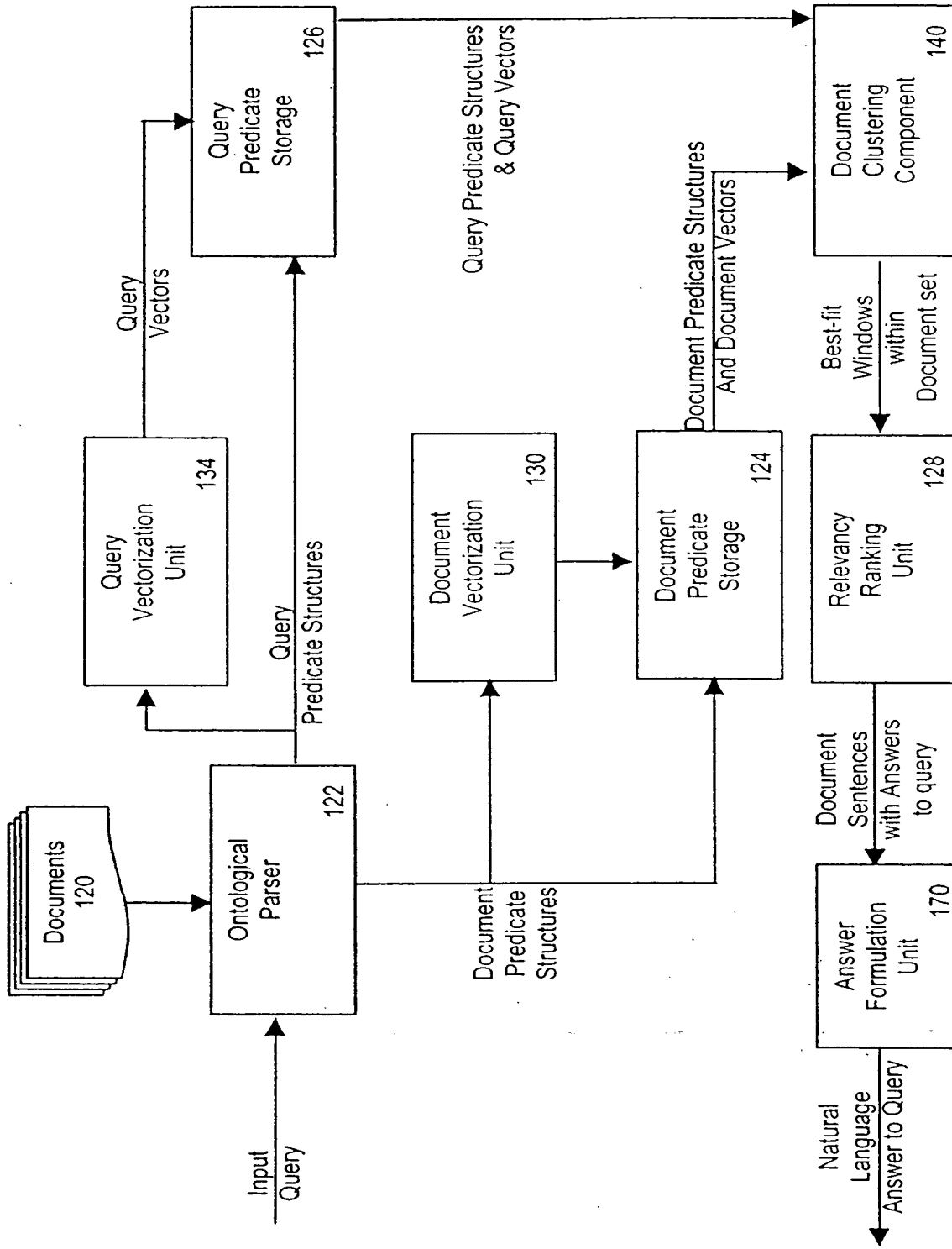


Figure 16